

# Operational Readiness Review (ORR)

## *Authorization to Deploy*

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### **DRAFT**

## **Incident Reporting Information System 1.2**

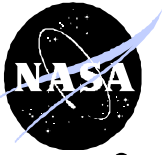
Provide Upgrades to IRIS  
SR# 1999-0001349

Code = QS Class = 1 Priority = Urgent

Task Order / Funding = 10.12

ECD: 4/3/2001

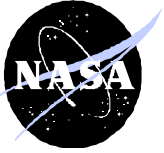
Keith Winters  
March 21, 2001



# Application/System Overview

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- **Application/System Name:** Incident Reporting Information System (IRIS)
- **Software Development Category:** C
- **Application/System Owner:** Jon Mullin
- **Number of Users:** 134
- **Purpose of Application/System:**
  - Agency-wide mishap reporting system. Permits a user to query, insert, update, delete and report on mishap data from a centralized database. The system allows Headquarters to generate reports on Agency-wide mishap metrics.
- **Current Version:** 1.1
- **Currently resides:** MSFC IRIS ADE Server
- **Software required:** IRIS runtime executable, SnareWorks client

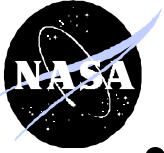


# Overview of Release Contents

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## Functional Requirements

- **Changes to “ease of use”**
  - De-activate arrow key for next page
  - Activate End key to end-of-line
  - Change time-of-day format
  - Mouse activated utility functions
    - Copy/paste/undo/spell functions
  - Enhance Find Case criteria screen
  - Confirmation screen at Case closing
  - Auto-populate selected corrective action data
  - New data items added to pick-lists
  - Modify reporting date from calendar to fiscal year
- **Change E-Mail notification**
  - Expanded message content
  - Limit to “new case” option
- **Enhanced reporting**
  - 19 new reports
  - 10 reports modified / enhanced
- **New Features**
  - Mishap Report (1627)
    - Created read-only screen to the full 1627 form
  - 1627 Form changes
    - Updated MS Word macros
    - Add instructions page
    - Updated drop-down pick lists
    - Add approval signature and date
- **Database enhancements**
  - Enhanced Database performance
    - Created DB stored procedures
    - Optimized queries
    - Modified DB settings
      - Indexes, cache configuration, and I/O buffers
- **System Type / Information Category:**
  - Application / Business and Restricted Technology (BRT) Information

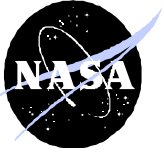


# Overview of Release Contents

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- **Delta Changes Since CDR**

- Delta requirements were requested during Agency-wide teleconference on 12/13/2000
  - Post Government Testing: 11/27/2000 – 12/8/2000
  - Schedule re-baselined on 12/29/2000
- No new architectural or functional changes introduced
- Majority of requirements were enhancements to exiting and/or new reports



# Critical Items Status

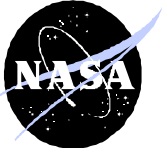
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<b><u>Critical Item</u></b>	<b><u>Status</u></b>
• CM Certification (checklist)	Complete
• Security	Complete
• Version Description Document	Complete
• Capacity Planning	Complete
• User Documentation	Complete
• User Training Materials	Complete
• User Training	Complete
• ADA Compliant	Deferred
• Implementation Plan	Complete
• Back-out Plan	Complete
• ODIN Call List Updates	N/A
• ODIN Triage List	Existing Triage 2

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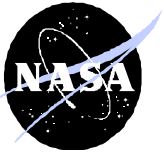
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# Formal Test Summary

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<u>Test</u>	<u>Status</u>
• Functional	Complete
• SEF (Integration/Regression)	Complete
• Benchmark	Complete
• Stress	Not Required
• Deployment/Installation	Complete
• Government Acceptance	Complete



# Functional Support Summary

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## Organization

- Service Delivery - ODIN
- Customer Focus - ODIN
- Software Development – ISEM
- Systems Engineering – ISEM
- Service Management – ISEM
- Operations – ISEM
- Security – ISEM
- Configuration Management - ISEM

## Status

Ready to Support

Ready to Support

Ready to Support

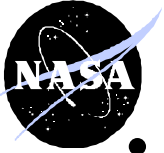
Ready to Support

Ready to Support

N/A

Ready to Support

Ready to Support

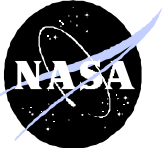


# Contingency Factors

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- **Deviations**
  - None
- **Problems**
  - None
- **Risks**
  - None
- **Issues**
  - None
- **Dependencies / Prerequisites / Assumptions**
  - None
- **Constraints / Limitations**
  - None
- **Action Items**
  - None Assigned

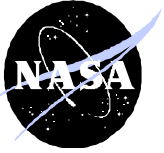




# Recommendation

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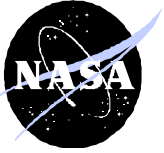
The Team recommends that *Incident Reporting Information System* Version 1.2 be approved for deployment on 3/27/2001.



# Backup Charts

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**(intended to be blank)**



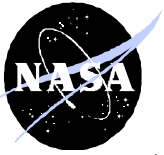
# Benchmark Results

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- **PC Hardware Test Configuration**
  - PC, Pentium II, 266 Mg Hz processor
  - 64 Mg RAM

- **Average report time (wall-clock) in seconds (")**

	<u>1.1 System</u>	<u>1.2 System</u>
– Open Case (all sites)	21"	10"
– Open Case (KSC)	3"	1"
– New Case (all sites)	2"	1"
– Special Cases Criteria (all sites+Civil Service+1999)	40"	10"
– Special Cases Criteria (KSC)	10"	5"
– Corrective Action (all sites+status = open)	15"	10"
– Corrective Action (KSC)	40"	40"
– Corrective Action (all sites+1999)	40"	10"



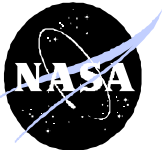
## Benchmark Results (cont.)

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- **Average report time (wall-clock) in seconds (")**

	<u>1.1 System</u>	<u>1.2 System</u>
– Personnel Fatality/Injury (all sites)	N/A	145"
– Personnel Fatality/Injury (KSC)	N/A	137"
– Lost Time Data (all sites)	N/A	135"
– Lost Time Data (KSC+Civil Service)	N/A	138"
– Lost Time Rate vs Goal (all sites+1999)	N/A	120"
– Lost Time Rate vs Goal (KSC+Civil Service)	N/A	50"
– Lost Time Summery (all sites)	N/A	5"
– Lost Time Summery (KSC)	N/A	1"

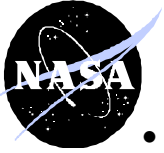
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# Implemented Database Capacity Planning Improvements

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- **Total Memory**
    - Total memory to database increased
  - **Total Data Cache**
    - Total data cache increased
  - **Procedure Cache**
    - Procedure cache increased to allow for stored procedures to be loaded and read from memory
  - **Default Fill Factor**
    - Default Fill Factor increased to will reduce the number of rows and index rows per page, reducing concurrency issues
  - **Extent I/O Buffers**
    - Increasing Extent I/O Buffers will improve reads/writes and intermediate data sorts
  - **Sort Buffers**
    - Vendor recommends Sort Buffers to be 8 times the Extent I/O Buffers
  - **Sort Page Count**
    - Vendor recommends Sort Page Count to be 16348
  - **Recreate smaller tables with the "max rows per page" option**
    - Vendor recommends that tables with less than 1000 rows, with this option, will reduce potential concurrency issues
  - **When necessary, stored procedures created in place of complex views**
    - Stored procedures increases performance by utilizing server rather than client processing
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# Formal Test Summery Guidelines

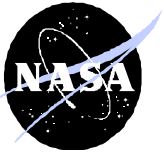
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- **Benchmark**

- Benchmark testing is the measurement of performance of formal test cases within a simulated unencumbered target system environment. Benchmark testing measures response times. Response times are documented and recorded in CM.
- Full Benchmark testing is required for all new applications and full version changes (e.g., v2.x to v3.0) of all software (Custom, GOTS/COTS, Web).
- X.x version releases only require Benchmark testing on the newly added functions. For example, if 2 new reports are added, the report generation response times for the new reports should be measured, documented and recorded in CM.
- Benchmark testing is not required for non-applications, web pages, Main-frame applications or x.x.x version application problem fixes. These exceptions should be listed as “Not Required” for the ORR.
- To enter “Complete” for this ORR item, The developer must document the benchmark test and place this documentation under Configuration Management

- **Stress**

- Stress testing is the measurement of performance and capacity metrics of formal test cases within a target system environment where peak anticipated user connections and data loads are simulated.
- Stress testing must be performed on all new applications and major revisions. Stress testing is not required for non-applications, web pages, Main-frame applications or x.x.x version application problem fix. These exceptions should be listed as “Not Required” for the ORR.
- Full Stress testing is required for all new applications and full version changes (e.g., v2.x to v3.0) of all software applications (Custom, GOTS/COTS, Web).
- X.x version releases only require Stress testing when additional users are being added to the system. This requirement may be waived by the Software Development Department Manager or Deputy.
- To enter “Complete” for this ORR item, The developer must document the Stress test and results and place this documentation under Configuration Management.
- DS04 (Test Plan and Procedures) specifically addresses stress testing and provides the vehicle for documenting the results of the testing.



# Incident Reporting Information System (IRIS)

## Technical Design/Architecture Features

### NASA -Wide End Users

- Standard Win/Intel PC desktop
- MS Windows 95 /98/ NT
- IRIS runtime
  - MS Access
  - SQL Server ODBC
- SnareWorks client

### MSFC IRIS ADE Server

#### HW / OS SW

- 390 RS/600
- SnareWorks Server
- SendMail
- Perl

#### Database S/W

- Sybase RDBMS
- Syb-perl

